HW#29H: Inductive Reasoning, Conjectures & Counterexamples - Honors Geometry

Due Date: Tuesday, Nov. 4th, 2014

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

**Failure to show work on all problems or use complete sentences will result in a LaSalle.**



For numbers 5- 8 write the next two numbers in the sequence.





**Some of the following conjectures are true and some can be proven false using a counterexample. If the statement is true, write the word TRUE in the box. For statements that are false, provide a counterexample.**

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| --- | --- |
| **11) Conjecture:** Everything that’s hot is fried chicken. | **12) Conjecture:** English is the only language spoken in the United States. |
| **13) Conjecture:** The square of an odd integer is odd. | **14) Conjecture:** If n is a real number then –n is a negative number. |
| **15) Conjecture:** The monthly high temperature in Abilene is never below 90°F two months in a row.   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | The Monthly High Temperatures for Abilene, Texas | | | | | | | | | | | | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | | 88 | 89 | 95 | 97 | 99 | 101 | 103 | 107 | 101 | 97 | 91 | 89 | | |
| **16) Conjecture:** The graph of a quadratic function  y = ax2+bx+c (a Description: noteq 0) is always a parabola. | **17) Conjecture:** A quadratic equation always has two solutions. |
| **18) Conjecture:** Every quadratic function is factorable. | **19) Conjecture:** The vertex of a parabola will always lie on the y-axis. |
| 20) Simplify: | 21) Simplify: |
| 22) Your classmate says that **0.0000000432** represented in scientific notation is **4.32 x 108**. Is your classmate right or wrong? Explain and show work. | 23) Convert the following into scientific notation:  a. 12,000  b. 0.000563  c. 557,000,000  d. 64 |
| 24) Find the measure of angle *W*. | 25) If angle PVT is 42⁰ and angle PVT is congruent to angle SVT, find angle PVQ.  P  Q  R  S  T  V |